

# RAVALLI COUNTY ROAD & BRIDGE DEPARTMENT

## MEMORANDUM

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TO BOARD OF COUNTY COMMISSIONERS

Ravalli County Commissioners

FROM DAVID H. OHNSTAD, COUNTY ROAD SUPERVISOR

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SUBJECT THE TRUTH ABOUT THE LOST HORSE QUARRY PROPOSAL

**"The Lost Horse Crag in Montana's Bitterroot National Forest could face demolition if the US Forest Service agrees to a county's proposed quarry."**

This alarming claim, posted on a "rock climbers" web-site, might make for great theater, but it is an abject falsehood, an utterly misleading and extraordinarily irresponsible statement. While there may be varying perceptions and opinions, it is important to begin any debate with one set of facts. This memorandum is offered in an effort to establish that one set of facts that may be of benefit to the B.O.C.C. in their determination of this matter. We will not attempt to match the over-wrought rhetoric and emotional hyperbole of opponents of the proposal but will rather address truthfully the questions and concerns that have been raised.

### **1) WILL THERE BE DRILLING AND BLASTING?**

**NO.** Drilling and blasting have not been proposed, drilling and blasting are not being proposed now and drilling and blasting will not be proposed in the future.

**THERE WILL BE NO DRILLING OR BLASTING AT THE LOST HORSE QUARRY.**

### **2) WILL THE EXISTING VERTICAL HIGH WALL BE "DEMOLISHED"?**

**NO.** The aggregate materials will be harvested from the loose-fall deposits that have accumulated at the base of the wall. The existing vertical hard-rock high wall will remain as it is. There may be some rock debris that continues to fall from the high wall, as it has for centuries, but the wall itself will not be touched.

### **3) WILL TREES BETWEEN THE QUARRY AND THE ROAD BE CUT DOWN?**

**NO.** The trees and other vegetation shielding the quarry from Lost Horse Road will not be touched. Quarry activity will not extend south beyond the existing disturbed area nor will the floor be lowered below the current average elevation.

The **LOST HORSE MINE PLAN OF OPERATIONS AND RECLAMATION PLAN** includes full details of the scope of operations, including operating boundaries, and also the plan for reclamation of the quarry after active mining operations are concluded.

#### **4) WILL LOST HORSE ROAD BE CLOSED OR GATED?**

**NO.** There may be a gate placed upon the access roadway leading to the quarry from the Lost Horse Road that **would remain open** except during active mining activity. **THERE WILL BE NO CLOSURE OR RESTRICTION ON LOST HORSE ROAD.**

#### **5) DOES THE COUNTY NEED THE AGGREGATE?**

**YES.** Bituminous Surface Treatments (chip seals) are an important method of preserving asphalt surfaced roadways; sealing pavement cracks, rejuvenating the pavement surface and restoring skid resistance to the driving surface. (The resistance to abrasion of the BST aggregate is critical to maintaining this skid resistance - softer aggregate wears more quickly, reducing the safety benefits of the BST.) BST applications are a very important element of the Road & Bridge Department's management of the county's infrastructure system. The Road & Bridge Department operates under a seven-year schedule for improvements to the county's collector and major local access roadways. This schedule calls for an average of **23.5 miles per year of BST applications**, with each mile requiring approximately 270 tons of aggregate for a **total of 6345 tons per year**. **This does not include the county's minor local access roadways, or the GRAVEL ROAD IMPROVEMENT PROGRAM, which employs a "double" BST application.**

Also, the Lost Horse Quarry would provide the rip-rap (armor rock) that is used for roadway embankment stabilization and erosion control. An average of 1500 tons would be processed each year to meet the needs of both the county and the National Forest. Additionally, special projects would also benefit from this material; for instance, the replacement of the Kootenai Creek Bridge will require approximately 860 cubic yards of rip-rap, at a market value of over \$16,000.00.

#### **6) DOES THE MATERIAL FROM THE QUARRY MEET SPECIFICATIONS?**

**YES.** One of the first things we do when analyzing potential mines is to test the material for conformance with the county's adopted standard for resistance to abrasion, an important factor in determining the performance of that material.

Ironically, those that initially questioned that the Lost Horse Quarry aggregate did not meet the adopted standards are now claiming that the standard is too high and are advocating for a lower standard to allow other materials to be used.

## **THE TOTAL PUBLIC BENEFIT FROM THE LOST HORSE QUARRY IS ESTIMATED AT \$2,187,750.00.**

### **7) IS THE LOST HORSE ROAD SAFE AS A TRANSPORT ROUTE?**

**YES.** Analysis of MDOT crash reports for the two mile section of U.S. Highway 93 centered on Lost Horse Road identifies twenty six reported collisions over the five year period of 2002 to 2006. Of those twenty six incidents, seventeen **(65%) involved wild animals** and another five (19%) involved fixed obstacles (fences, sign posts, guardrails) as the first harmful event. Only two collisions resulted in injuries; there were no fatalities reported; and only one was reported to involve a right-angle encounter. **THE CRASH SEVERITY RATE FOR THIS SECTION OF HIGHWAY IS 35% LESS THAN THE STATE-WIDE AVERAGE; THE CRASH SEVERITY INDEX IS 49% LESS THAN THE STATE AVERAGE.**

The existing sight distances at the intersection of the Lost Horse Road at U.S. Highway 93 are 770 feet (north) and 765 (south), measured from the perspective of a passenger vehicle (3.5 foot height of eye toward a 2.0 foot target). The (passenger vehicle) design intersection sight distance is 720 feet at a 65 miles-per-hour design speed. The existing sight distances of the intersection of Lost Horse Road at U.S. Highway 93, measured from the perspective of a standard design truck (7.6 feet height of eye toward a 2.0 foot target) are 880 feet to the north and 995 feet looking south. The (combination truck) design intersection sight distance is 1000 feet at a 65 miles-per-hour design speed. Employing a Class 8 dump truck operated by the Road & Bridge Department, the existing sight distances measured 1070 feet looking south and 900 feet looking north.

It is important to recognize that the design values referenced above are for new construction. With minor mitigation, most likely consisting of advance warning or advisory signs posted on U.S. Highway 93, professional judgment is that the existing intersection will function safely and will safely accommodate projected demands. All traffic control placements would be coordinated with the MDOT.

Additionally, appropriately designed advance warning, speed advisory and other traffic control devices and work zone installations will be placed on Lost Horse Road and any intersecting public roadway whenever quarry traffic is scheduled.

Sight distances on Lost Horse Road are acceptable; the section through Charlos Heights Orchards has a 1½ mile-long un-obstructed view. There are several private approaches onto the public roadway that may have limited sight distance, including two where property owners have installed convex mirrors in recognition of that limitation. Given that these limitations are due to obstructions (fences and vegetation) typically occurring outside the public easement, property owners have the ability and responsibility to mitigate those concerns. Encroachments within the public easement will be removed by the Road & Bridge Department.

### **8) WILL THE LOST HORSE ROAD BE WIDENED?**

**NO.** Lost Horse Road occurs within a 60 foot public easement, both the Ravalli County and National Forest sections, excepting a 1½ mile-long section through Charlos Heights Orchards townsite that occurs within a 30 foot easement. The paved (county-operated) section is of sufficient geometric design and structural capacity to safely accommodate the projected demand with nominal improvement.

The un-paved section, from the end of pavement to the National Forest boundary, is currently operated, at minimum levels, by Ravalli County under an operating agreement with the National Forest. The section from the forest boundary to the Lick Creek / Como Road is operated the National Forest. These sections would be scheduled for improvements to include the re-shaping of the existing roadway cross-section, importing and placing aggregate surfacing from the Lost Horse Quarry, and, potentially, the application of dust abatement during active quarry operations. These sections would be only nominally widened, in specific areas.

There may be an opportunity to obtain immediately available fiscal resources to construct these improvements through an amendment to an existing agreement between the National Forest and the Road & Bridge Department. **This would require, however, appropriating those resources prior to October 31, 2007.**

### **9) WILL QUARRY OPERATIONS HARM WILDLIFE OR HABITAT?**

**NO.** The allegations of wolverine habitat appear to be un-founded. Reports of peregrine falcons habiting the quarry have also not been confirmed. Ironically, an apparent source of considerable concern to nesting raptors is ...rock climbers. From a rock climber's web-site guide - "Why are climbing restrictions necessary? **Over half of the restrictions listed each year are for peregrine falcons ....**"

### **10) IS A TEN YEAR TERM NECESSARY?**

**YES.** A lack of storage area at both the quarry site and the location for secondary processing of the aggregate requires that the material be harvested annually as storage and processing space becomes available. After the first several years, adequate room should be available at the quarry to stockpile materials in larger quantities, allowing several years worth of aggregate to be processed on-site at the same time, reducing the annual operation requirement of the crushing plant.

### **11) WILL THE PLANT REALLY OPERATE SEVEN MONTHS EACH YEAR?**

**NO.** The period of October through April was selected as the time during which operations would take place in order to avoid peak periods of recreational use in the area. It will take between four to six weeks of actual operation, within that seven month period, to produce the necessary stockpiles of material each year.

**12) DOES THE BITTER ROOT NATIONAL FOREST BENEFIT?**

**YES.** The National Forest, in exchange for the value of the raw aggregate they will donate to the Road & Bridge Department, will obtain the material screened out during the primary processing of the material on-site at the quarry. This material, a well graded fractured aggregate, will be used for roadway surfacing and road-base work on National Forest roadways and campground in the area.

Also, the National Forest would have access to the rip-rap materials processed at the quarry, material that is used to stabilize roadway embankments and to prevent the erosion of stream-banks, enhancing water quality and watershed health. The over-sized rock found on the site would be used to restrict motorized travel on illicit trails within the forest (rather than gates which are unsightly and very often vandalized) reducing the environmental damage caused by illegal use.

**13) WILL THE LOST HORSE QUARRY PROJECT BE COST EFFECTIVE?**

**YES.** The attached economic analysis demonstrates the considerable value of the project; to the county, to the forest and ultimately to the county rate-payers.

(NOTE - the highlighted items in the analysis reflect Road & Bridge equipment rental rates with only (budgeted) operating costs included, not ownership costs.)

**14) WILL THE RAVALLI COUNTY COMMUNITY BENEFIT?**

**YES.** In addition to the substantial economic benefit, the people of Ravalli County and all those seeking to enjoy the Bitter Root National Forest will benefit from improved access to the wonders of the Lost Horse Canyon and surrounding area.

**THE ROADWAY IMPROVEMENTS ANTICIPATED THROUGH THIS PROJECT  
WILL EXPAND SAFE AND EFFECTIVE ACCESS TO EVERYONE, ENHANCING  
RECREATION OPPORTUNITY AND ECONOMIC DEVELOPMENT.**

Also, when the quarry site is reclaimed after the mining operation is completed, additional opportunities for parking, trail access and other uses will be possible.

**15) IS IT TOO LATE TO PARTICIPATE IN A MEANINGFUL DISCUSSION?**

**NO.** The Road & Bridge Department and the Bitter Root National Forest continue to welcome an open, positive and meaningful dialogue with the community about this proposal. The operating plan remains in "draft" format. We want to learn of positive suggestions that well-meaning individuals and groups have to offer.

Too often, those that are simply and narrowly "opposed" dominate the debate. We encourage the community to help us make this a project that works for everyone.

# RAVALLI COUNTY ROAD & BRIDGE DEPARTMENT

## PRODUCTION & VALUE ESTIMATES

### LOST HORSE QUARRY PROPOSAL

#### PRIMARY CRUSHING PLANT OPERATION

D8K CRAWLER TRACTOR (50%)	\$ 60.00	(\$ 33.00)
JOHN DEERE 744 WHEEL LOADER	\$ 75.00	(\$ 41.25)
HEWITT ROBBINS TRAP	\$ 25.00	(\$ 13.75)
CEDAR RAPIDS JAW CRUSHER	\$110.00	(\$ 60.50)
ELECTRICAL / CONTROL VAN	\$ 15.00	(\$ 8.25)
POWER PLANT TRAILER	\$ 65.00	(\$ 35.75)
STACKING CONVEYOR	\$ 25.00	(\$ 13.75)
DISCHARGE CONVEYOR	\$ 15.00	(\$ 8.25)
CREW TRUCK	\$ 13.00	(\$ 7.15)
CREW LEADER	\$ 27.00	\$ 27.00
EQUIPMENT OPERATOR	\$ 25.00	\$ 25.00

\$455.00 / HOUR (\$273.65)

@ (X) 235 TPH = \$1.93 (\$1.17) PER TON

#### MOBILIZATION

LOWBOY TRACTOR	\$ 31.00	<u>(\$17.05)</u>	X 40 HRS	\$1240.00	<u>(\$ 682.00)</u>
LOWBOY TRAILER	\$ 10.00	<u>(\$ 5.50)</u>	X 20 HRS	\$ 200.00	<u>(\$ 110.00)</u>
CREW TRUCK	\$ 13.00	<u>(\$ 7.15)</u>	X 50 HRS	\$ 650.00	<u>(\$ 357.50)</u>
EQUIP OPERATOR	\$ 25.00		X 50 HRS	\$1250.00	\$1250.00
EQUIP OPERATOR	\$ 25.00		X 40 HRS	\$1000.00	\$1000.00
CREW LEADER	\$ 27.00		X 50 HRS	\$1350.00	\$1350.00

\$5690.00 (\$4749.50)

@ 10,000 TON = 0.57 (\$0.48)

#### ESTIMATED COST OF PRODUCTION (LOST HORSE QUARRY)

**\$2.50** (\$1.65) PER TON

**( ) = OPERATING COSTS ONLY**

## SECONDARY CRUSHING PLANT OPERATION

JOHN DEERE 744 WHEEL LOADER	\$ 75.00	(\$41.25)
HEWITT ROBBINS TRAP	\$ 25.00	(\$13.75)
JCI CONE CRUSHER	\$180.00	(\$99.00)
ELECTRICAL / CONTROL VAN	\$ 15.00	(\$ 8.25)
POWER PLANT TRAILER	\$ 65.00	(\$35.75)
STACKING CONVEYOR	\$ 25.00	(\$13.75)
DISCHARGE CONVEYOR	\$ 15.00	(\$ 8.25)
CREW TRUCK	\$ 13.00	(\$ 7.15)
CREW LEADER	\$ 27.00	\$ 27.00
EQUIPMENT OPERATOR	\$ 25.00	\$ 25.00
	<u>\$465.00 / HOUR</u>	<u>(\$279.15)</u>

@ (X) 105 TPH = \$4.43 ~~(\$2.67)~~ PER TON

## MOBILIZATION

LOWBOY TRACTOR	\$ 31.00 <del>(\$17.05)</del> X 10 HRS	\$ 310.00	(\$ 170.50)
CREW TRUCK	\$ 13.00 <del>(\$ 7.15)</del> X 40 HRS	\$ 520.00	(\$ 286.00)
EQUIP OPERATOR	\$ 25.00 X 40 HRS	\$1000.00	\$1000.00
EQUIP OPERATOR	\$ 25.00 X 10 HRS	\$ 250.00	\$ 250.00
CREW LEADER	\$ 27.00 X 40 HRS	\$1080.00	\$1080.00
		<u>\$3160.00</u>	<u>(\$2786.50)</u>

@ 10,000 TON = 0.32 ~~(\$0.28)~~

## COST OF PRODUCTION (HAMILTON AIRPORT)

**\$4.75 ~~(\$2.95)~~ PER TON**

## TRANSPORT (LOST HORSE TO HAMILTON AIRPORT)

**\$4.00 / TON (\$6.00 / CUBIC YARD)**

## TOTAL COST OF EXCAVATION, TRANSPORT & PROCESSING

**\$11.25 ~~(\$8.60)~~ PER TON**

( ) = OPERATING COSTS ONLY

**EXAMPLE "A"**

**ANNUAL (NET SAVINGS) VALUE OF LOST HORSE MATERIALS**

<b><u>QUANTITY</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>NET VALUE</u></b>	<b><u>TOTAL</u></b>
10,000 TONS	BST AGGREGATE	\$ 2.75 / TON	\$ 27,500.00
1500 YARDS <sup>3</sup>	RIP-RAP	\$18.75 / YD <sup>3</sup>	\$ 28,125.00
13,000 TONS	SURFACE ROCK	\$12.55 / TON	\$163,150.00

**TOTAL ANNUAL SAVINGS TO PUBLIC AGENCIES**

**\$218,775.00**

**TOTAL VALUE OF PROPOSED TEN-YEAR TERM**

**\$2,187,750.00**

**EXAMPLE "B"**

**ANNUAL BUDGET IMPACTS - COUNTY ROAD & BRIDGE**

MARKET PRICE OF 10,000 TONS BST AGGREGATE	\$140,000.00
LESS	
ANNUAL OPERATING / PRODUCTION COSTS	\$ 86,000.00
PLUS	
MARKET PRICE OF 1500 CUBIC YARDS RIP-RAP	\$ 28,125.00

**ANNUAL OPERATING BUDGET SAVINGS**

**\$82,125.00**

**OPERATING BUDGET SAVINGS (TEN YEAR TERM)**

**\$821,250.00**

**EXAMPLE "C"**

**PER MILE SAVINGS ON FOREST ROAD SURFACING MATERIAL**

**\$37,650.00 (3000 TON @ \$12.55 / TON)**

**27.5 MILES - LOST HORSE CORRIDOR**

**\$1,035,375.00**